**What is Claimed:**

1. A method for code-tracking in CDMA communication systems comprising
a) receiving of an electromagnetic signal (10) being a superposition of a plurality of signal components of different signal paths (*i*),
b) digitising (14) the received signal (10, 13),
c) distributing the digitised signal (15) to receiver fingers (1, 2,..., *N*) each of which is assigned to one of the signal paths,
d) distributing the digitised signal (110, 111) to a detection stream and a synchronising stream,
e) decorrelating (121, 122) the digitised signal by a code sequence (112) in the synchronisation stream and
f) reducing the interference of at least one other ($j \neq i$) than the signal component of the assigned signal path (*i*) with the signal component of the assigned signal path (*i*) in at least one of the receiver fingers.

2. A method according to claim 1, wherein step f) comprises a subtraction (130) of an interference signal from the decorrelated digitised signal (116).

3. A method according to claim 1 or 2, wherein the subtraction takes place on symbol rate ($1/T$).

4. A method according to one of the preceding claims, wherein interference of other signal components ($j \neq i$) than the assigned signal component ($i$) is reduced in all receiver fingers ($1, 2, \ldots, N$).

5. A method according to one of the preceding claims, wherein step e) comprises decorrelating (121, 122) the digitised signal by multiplying the digitised signal with a complex-conjugate pseudo-noise code sequence (112).

6. A method according to one of the preceding claims, wherein an early-late timing error detection (102) is provided in the synchronisation stream.

7. A method according to one of the preceding claims, wherein after step f) the real part (118, $\tilde{x}$) of the interference reduced complex signal ($\tilde{y}$) is determined (126).

8. A method according to one of claims 1 to 6, wherein before step f) the real part (x) of the complex signal (116, y) is determined (126).

9. A method according to one of the preceding claims, wherein after step f) the interference reduced signal (118, $\tilde{x}$) is filtered (103) in a step g).

10. A method according to claim 9, wherein steps e), f) and g) provide a code-tracking (101) of the digitised signal (111).

11. A method according to claim 10, wherein the code-tracking (101) provides an estimated timing delay ($\hat{\tau}^{(i)}$) of the signal component of the assigned signal path ($i$).

12. A method according to one of the preceding claims, wherein prior to step f) the digitised signal (111) is distributed to a first and second correlator (121, 122).

13. A method according to claim 12, wherein the digitised signal (111) is time-shifted prior to feeding it to the second correlator (122) providing late and early estimates (113, 114) as output of the first and second correlator (121, 122), respectively.

14. A method according to claim 13, wherein the early and late estimates (114, 113) are subtracted (124) yielding an intermediate signal (117).

15. A method according to claim 14, wherein the intermediate signal (117) is multiplied (125) with reconstructed transmitted symbols (115).

16. A rake receiver (17) for processing a received electromagnetic signal (10) being a superposition of signal components of different signal paths, comprising

a plurality of receiver fingers (1, 2,..., $N$), wherein at least one of the receiver fingers (1, 2,..., $N$) is adapted to receive a signal component assigned to one of the signal paths ($i$) with $i \in \{1, \ldots, N\}$

a timing error detector (102) for estimating an error of a delay ($\hat{\tau}_k^{(i)}$) of the signal component of the assigned

signal path ($i$) and
an interference reduction device (131) adapted to reduce the interference of at least one other signal component ($j$) with $j \neq i$ and $j \in \{1, \ldots, N\}$ with the said signal component of the assigned signal path ($i$).

17. A rake receiver (17) according to claim 16, wherein the interference reduction device (131) comprises an interference computation module (132) being adapted to receive complex path weights ($c_k^{(j)}$, 134) and path delays ($\hat{\tau}_k^{(i)}$, $\hat{\tau}_k^{(j)}$) to compute an interference signal of at least one other signal component ($j$) with the said signal component of the assigned signal path ($i$).

18. A rake receiver (17) according to claim 16 or 17, wherein
the interference reduction device (131) is adapted to subtract (130) the interference signal of at least one other signal component ($j$) from the said signal component of the assigned signal path ($i$).

19. A rake receiver (17) according to one of the preceding device claims, comprising an A/D-converter (14) upstream of the receiver fingers ($1, 2, \ldots, N$), for digitising the received signal (10, 13).

20. A rake receiver (17) according to one of the preceding device claims, wherein the timing error detector (102) comprises an early-late gate timing error detector.

21. A rake receiver (17) according to one of the preceding device claims, wherein each receiver finger ($1, 2, \ldots,$

$N$) comprises a loop filter (103).

22. A rake receiver (17) according to claim 21, wherein each receiver finger (1, 2,..., $N$) comprises a code-tracking loop (101) comprising the timing error detector (102) and the loop filter (103).

23. A rake receiver (17) according to claim 22, wherein the code-tracking loop (101) is adapted to estimate a timing delay ($\hat{\tau}^{(i)}$) of the signal component of the assigned signal path ($i$).

24. A rake receiver (17) according to one of the preceding device claims, wherein the timing error detector (102) is adapted to provide pseudo-noise (112) decorrelation (121, 122).

25. A rake receiver (17) according to one of the preceding device claims, which is adapted for direct-sequence code-division multiple access communication.